Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims.

1. (Original) An isolated polynucleotide encoding for Cathepsin O, said polynucleotide selected from the group consisting of

(a) a polynucleotide encoding for the Cathepsin O polypeptide having the deduced amino acid sequence of FIG. 1 or a fragment, analog or derivative of said polypeptide; and

(b) a polynucleotide encoding for the Cathepsin O polypeptide having the amino acid sequence encoded by the cDNA contained in ATCC Deposit No. 75671 or a fragment, analog or derivative of said polypeptide.

2-13. (Cancelled)

14. (Original) A polypeptide selected from the group consisting of (i) a Cathepsin O polypeptide having the deduced amino acid sequence of FIG. 1 and fragments, analogs and derivatives thereof and (ii) a Cathepsin O polypeptide encoded by the cDNA of ATCC Deposit No. 75671 and fragments, analogs and derivatives of said polypeptide.

15. (Cancelled)

16. (Original) An antibody against the polypeptide of claim 14.

17. (Original) An antagonist/inhibitor against the polypeptide of claim 14.

18. (Original) A method for the treatment of a patient having need to inhibit Cathepsin O comprising: administering to the patient a therapeutically effective amount of an antagonist against the polypeptide of claim 14.

19. (Cancelled)

20. (Original) A method for the treatment of a patient having need to inhibit Cathepsin O comprising: administering to the patient a therapeutically effective amount of an antisense construct against the DNA or RNA which encodes for Cathepsin O such that transcription and translation into Cathepsin O is inhibited.

21. (Original) A method for the treatment of a patient having need to inhibit Cathepsin O comprising: administering to the patient a therapeutically effective amount of the antibody of claim 16.

22. (Cancelled)

23. (Original) A method for identifying inhibitors of Cathepsin O comprising: combining a potential inhibitor of the Cathepsin O polypeptide with peptide-based substrate of the formula $X-(Y)_n-Z$, wherein (i) X is an amino protecting group; (ii) Y is any naturally or non-naturally occurring amino acid; (iii) n is any whole integer; and (iv) Z is any chromogenic or fluorogenic tag; allowing an effective amount of time for the Cathepsin O to cleave the Y amino acid group; passing the peptide-based substrate through a fluorimeter, if a fluorogenic tag is used or a spectrophotometer, if a chromogenic tag is used; and detecting the production of fluorescence or color released by Z.

24-25. (Cancelled)

26. (New) A method of detecting Cathepsin O protein in a biological sample comprising:

(a) contacting the biological sample with an antibody that specifically binds to a protein selected from the group consisting of:

(i) amino acid residues –115 to 214 of SEQ ID NO:2;

(ii) amino acid residues –100 to 214 of SEQ ID NO:2; and

(iii) amino acid residues 1 to 214 of SEQ ID NO:2; and

(b) detecting the Cathepsin O protein in the biological sample.

27. (New) The method of claim 26, wherein said antibody is selected from the group consisting of:

(a) a monoclonal antibody;

(b) a polyclonal antibody;

(c) a chimeric antibody;

(d) a humanized antibody;

(e) a single chain antibody; and

(f) an Fab fragment.

28. (New) The method of claim 26, wherein said antibody specifically binds to a protein consisting of amino acid residues –115 to 214 of SEQ ID NO:2.

29. (New) The method of claim 26, wherein said antibody specifically binds to a protein consisting of amino acid residues –100 to 214 of SEQ ID NO:2.

30. (New) The method of claim 26, wherein said antibody specifically binds to a protein consisting of amino acid residues 1 to 214 of SEQ ID NO:2.